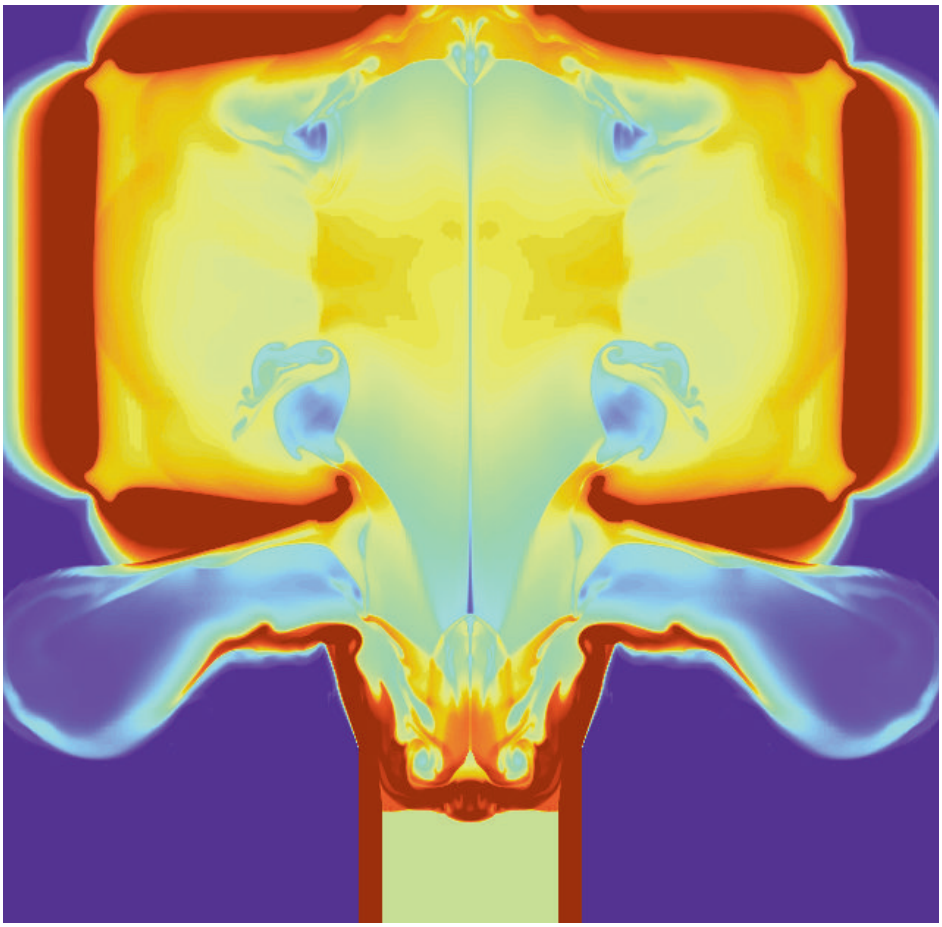
BITS computing&communications news

JUNE 1997

COMPUTING, INFORMATION, AND COMMUNICATIONS (CIC) DIVISION • LOS ALAMOS NATIONAL LABORATORY

A major thrust in the Laboratory's ASCI program is the understanding of turbulent flows in complex systems. This image shows the results (late-time densities) of a radiation-hydrodynamics simulation of a NOVA laser high-energy-density physics experiment. The experiment (fielded by Ted Perry of LLNL) investigates turbulent flows in a shock tube driven by a cylindrical hohlraum that reaches temperatures of about 2.5 million degrees Celsius. It was the inclusion of various 2-D approximations of the hohlraum in these calculations that led to a better understanding of the shock tube results. Because the late-time hydro evolution is driven by the initial 3-D geometry, 3-D calculations on the ASCI Blue Mountain machine are anticipated. The simulation was developed by Bernhard Wilde of XTA using the Eulerian AMR (Adaptive Mesh Refinement) code RAGE (Radiation Adaptive Grid Eulerian), developed by Mike Gittings (XHM and SAIC), Eldon Linnebur (XHM), and Bob Weaver (XTA).



Inside this issue

Customer Service Center . . . . . .(505) 665-4444 or cichelp@lanl.gov

Because of the wide variety of CIC computing services, numerous facilities are available to address your questions. If you are uncertain whom to call, you can always call the Customer Service Center (CSC). CSC consultants are trained to either answer your question or locate someone who can. To reach the appropriate consultant, dial 665-4444 and make your selection from the following choices:

Option 1: New user topics including e-mail, passwords, registration, and World Wide Web.

Option 2: Labwide Systems such as Travel, Time and Effort, and Purchase Cards.

Option 3: Scientific computing, storage systems, and networking.

Option 4: Classroom instruction and training.

Option 5: Desktop Consulting for PC and Macintosh software and network configurations.

Consulting Via E-Mail

Customer Service Center.....cichelp@lanl.gov

Scientific and engineering computing.....consult@lanl.gov

Administrative and business computing.....labwide@lanl.gov

Passwords and registration.....validate@lanl.gov

Macintosh computing.....Mac-help@lanl.gov

PC computing.....PC-help@lanl.gov

UNIX computing.....UNIX-help@lanl.gov

Other Useful Numbers

Advanced Computing Laboratory.....665-4530

Central Computing Facility.....667-4584

Network Operations Center.....noc@lanl.gov or 667-7423

Telephone Services Center.....667-3400

The ICN Password Office

The ICN Password Office is generally the first stop for people who want to use the Integrated Computing Network (ICN)—the backbone of LANL's computing environment. Whether you need e-mail service or high-performance computing, you will probably need to obtain a password from the ICN Password Office. However, the term Password Office is a bit of a misnomer because in addition to providing unclassified and secure passwords, the Password Office is responsible for

Password Team (L to R): Sharon Wilhelmy, Phil Villareal, Wanda Dunlop, and Lourdes Martinez.

• Issuing smartcards,

• Providing information on computer security issues,

• Consulting and troubleshooting,

• Issuing srvtabs (which provide access to host computers),

• Providing access to and removal of files stored in the CFS (Common File Storage), and

• Performing anomaly detection.

In a typical month, the Password Office responds to 1500 phone calls, 250 office visits, and processes 200 ICN accounts.

The Password Office originated in the Computer Security Group, which was created in the early 1970s in C-Division, and was later a part of OS-Division (now FSS). In April 1993 the password function was transferred to CIC Division, and it is now a part of the CIC-6 Customer Service Center.

Currently, there are three people who work in the Password Office. Wanda Dunlop has been with the office for thirteen years, so to many users "Passwords R Wanda." Wanda is the type of person who never forgets a name or face, and she's been around to wish long-standing users well in their retirement as well as welcoming the next generation of users as they come onboard. Phil Villareal joined the Password Office in the summer of 1993, arriving about the same time as smartcards. He has become the resident smartcard authority and has seen smartcard users grow from a mere dozen to over 4,500. Phil has taken his smartcard show on the road, introducing external users on the East and West Coasts to smartcards, speaking to groups around the Laboratory, and most recently, participating routinely in the Office Skills 2000 training. If you've phoned the Password Office lately, chances are you've been greeted by the pleasant voice of Lourdes Martinez. Unlike Wanda and Phil, who cut their teeth in the Computer Operations group, Lourdes gained her experience in documentation services and in other customer support activities. Lourdes joined the Password Office in the summer of 1995.

As many of you know from experience, the Password Office has gone through some big changes in the past couple of years including the following:

• Changing from a paper-based renewal system to one that is on line—accelerating the process from about 8 days to 8 seconds.

• Changing from one product line to two: passwords and smartcards.

• Changing from a single, stand-alone Virtual Memory System (VMS) database to separate Open and Secure Kerberos databases and a smartcard database. These systems are now fed by the Employee Information System (EIS) which immediately updates the databases when location information changes or when employees terminate.

• Changing from an annual to a semiannual password renewal cycle. In addition, an annual management reauthorization exercise has been accelerated from once a year to every 6 months, with a DOE requirement that it apply not only to Secure users but Open contractors and other external users as well.

Helping the Password Office make these system transitions were CIC-5 developers Ken Grady, Dotti Merrigan, and Jim Clifford. Assisting the Password Office with special projects is Sharon Wilhelmy, who is also responsible for anomaly detection via NADIR (Network Anomaly Detection & Intrusion Reporter).

Contact the ICN Password Office if you need to

• Open an ICN account (obtain a password or smartcard),

• Reset your smartcard PIN,

• Transfer your smartcard to another ICN user,

• Discuss password security,

• Close your ICN account (deactivate your password or smartcard), or

• Clean up old CFS files.

There are several ways to contact the Password Office. You can call (505) 665-1805 option 2, send a fax to (505) 667-9617, or send e-mail to validate@lanl.gov. You can also send paper mail to MS-B251 or come by the office at TA-3, Bldg 200, Room 257. Office hours are Monday through Friday, 9:00 a.m. to noon and 1:00 p.m. to 5:00 p.m. If you access the Web, point your browser at the following URL to view the Password Office Web page.

http://www.lanl.gov/divisions/cic/ComputingAtLANL/passwords/passwd.0.html

Wanda Dunlop, wanda@lanl.gov, (505) 665-1805
Customer Service Group (CIC-6)

Sharon Wilhelmy, sw@lanl.gov, (505) 665-6328
Customer Service Group (CIC-6)

Avoiding Password Problems

Once you obtain your ICN password, there are a few “dos” and “don’ts” you should be aware of to avoid problems that might crop up later on.

(1) Don’t just memorize your password and expect to rely exclusively on your memory. While most of us believe we can, about 60 users per month forget their password and have to contact the Password Office to get a new one. If your password is for unclassified computing, you can prevent this from happening by writing the password on a piece of paper and then storing the paper in a locked drawer. Passwords for classified computing are considered Secret, National Security Information, and if written down, become classified documents. They must be marked and stored according to standard Laboratory procedures for marking and handling classified data.

(2) Don’t accidentally let your password expire. ICN passwords must be renewed every 6 months as mandated by DOE. The Password Office sends out renewal notifications 30 days before the expiration date. Failure to renew before the expiration date results in a canceled password. (Each month about 40 passwords are canceled.) If you allow your password to expire, you will have to repeat the entire application process to obtain a new password, which can be costly and time consuming. A sure way to prevent this from happening is to renew your password as soon as you receive notification.

Using the Web to Track Funding Opportunities

Interested in keeping informed about funding opportunities without plowing through dozens of Web pages every day? Try the FEDIX Funding Alerting Service available on the LANL Research Library Web Page (http://lib-www.lanl.gov/) under Subject Resources/Grants and Funding, or access it directly at http://www.rams-fie.com/opportunity.htm. This free on-line e-mail service delivers targeted research and education funding opportunities within your area(s) of research.

Simply register and use FEDIX's keywords to identify your interest areas. You will automatically begin receiving e-mail announcements of new funding opportunities from FEDIX's 11 participating agencies that match your areas of interest.

Participating agencies include:

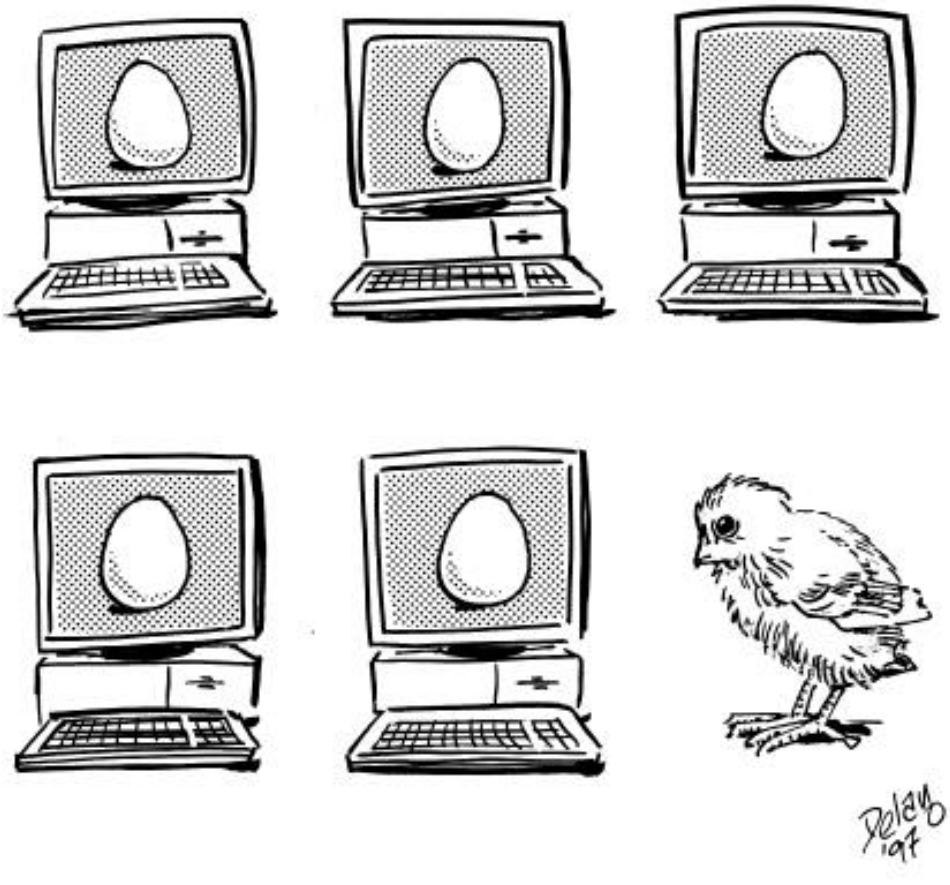
- Department of Energy,
- National Aeronautics & Space Administration,
- Office of Naval Research,
- Department of Transportation,
- National Institutes of Health,
- Department of Air Force,
- Agency for International Development,
- Interagency Learning Technology Office,
- Department of Agriculture,
- Defense Information Systems Agency (DISA),
- Office of the Chief Information Officer (CIO), and
- Educational Institutions Partnership Program (EIPP)

Also consider the Community of Science Funding Opportunities Database at http://cos.gdb.org/repos/fund/. This database is designed to link researchers and research funding from around the world. The database includes information on funding opportunities announced by federal agencies, state/provincial organizations, commercial entities, non-profit foundations, professional associations, etc. The focus of the database is international in terms of both content and audience.

The Funding Opportunities Database is updated daily by the Community of Science Staff who scan many Web sites, list servers, as well as the Federal Register and Commerce Business Daily. The Research Library has this database on trial until mid-May. If you think it's a worthwhile database for Lab-wide access, please send your comments to library@lanl.gov or phone us at 667-5809.

For more information on grants and funding resources, visit our Grants and Funding Web page at http://lib-www.lanl.gov/infores/fund/fund.htm. The Research Library offers a class on locating Grants and Funding Information on the Web. We will also come to your office if you would like a group presentation or a one-on-one personalized session. Please contact us if you want to register for the Grants and Funding class or if you want to arrange for someone to visit your office.

Lou Pray, lpray@lanl.gov, (505) 667-5809
Research Library (CIC-14)



Gartner Group Services Available on the Web

Several CIC organizations (CIC-2, 5, 7, 11, Information Architecture Project, and Enterprise Information Project) have contracted with Gartner Group to provide the entire Laboratory with access to GartnerWeb. Gartner Group, Inc. is the world's leading independent advisor of research and analysis to business professionals making information decisions, including users, purchasers, and vendors of information technology products and services. GartnerWeb provides clients with Web access to all of Gartner Group's Research, Advisory, and Strategic Planning services and research documents published during the last 18 months. The current contract allows access to eight of Gartner Group's services, six of their publications, and their telephone consulting services.

Services

Descriptions for each of the services listed below are located at http://www.gartner.com/services/wheel.html. You do not need to be registered with GartnerWeb to access the descriptions.

- Applications Development & Management Strategies (ADM)
- Integrated Document & Output Management (IDOM)
- Internet Strategies (INET)
- Local Area Networking (LAN)
- Office Information Systems (OIS)
- Personal Computing (PC)
- Storage Technologies, Operations & Resources (STOR)
- Systems Software Architectures (SSA)

Publications

The six publications or document types provided through the Laboratory's contract with Gartner are as follows:

• InSide Gartner Group (IGG)—This weekly newsletter highlights topics discussed at Gartner Group research analysts meetings.

• Monthly Research Review (MR)—This chronicles industry trends and developments for information technology. It provides summaries of all the research published monthly.

• Point-to-Point (PTP)—Gartner Group's review of the telecommunications industry.

• Research Note (RN)—This document focuses on companies, markets, key issues, products, events, technologies, and questions and answers.

• Strategic Analysis Report (SAR)—These are in-depth evaluations of key trends, industry developments, vendors, products and services.

• Top VIEW (TV)—An executive summary document on a particular theme supported by Research Notes.

Telephone Consulting

Analyst consultation by phone, fax, or e-mail is included in the Laboratory's contract with Gartner. If you need the latest industry trends on storage prices, or an expert opinion about where information technology is headed, call the Gartner Group experts. Inquiry privileges extend to those topics covered in services retained through the contract. This consultation service is accessed through "Quick Path," which is located on the GartnerWeb home page. A Web page with telephone numbers, e-mail addresses, and subject coverage is available from the Research Library's GartnerWeb link.

Also available are Audioconferences—prearranged conference calls on specific topics of interest. A schedule of audioconferences is on the Gartner Group home page. Audioconferences extend to those topics covered in services retained through the contract. Audioconferences usually include a half hour lecture followed by a half hour question and answer session.

Search and Browse Capabilities

When you search or browse GartnerWeb, the default setting is for only those services for which the Laboratory has contracted. You can view available services by clicking on "My Services." You can also change the setting to "All Services," but if you try to access a document not covered by the contract, you will receive the following message: "We're sorry, the document you have requested is published by a service you do not have access to view." You can contact Gartner for further options.

Each document is identified by the analyst, a service acronym, a document type acronym, and date of publication.

You can browse by five different options: analyst, date, service, document type, or new research (which represents the most recent two weeks of research). Search criteria include analyst, title, document type, or date. You can use single words or phrases. Note that the results when searching or browsing by topic are ordered by service and then chronologically.

Profiling Capabilities

GartnerWeb has the capability to create a personal profile(s) of topics that are of interest to you, and then send you e-mail notification when new research is available that matches your profile. You can select your method of e-mail notification (Individual or Consolidated) and create a "Personal

Home Page." If you select Individual e-mail notification, you will receive an individual e-mail for every document that matches your profile as those documents are published. The e-mail will include the title and URL address of the document. If you select a form of Consolidated e-mail notification (daily, weekly or monthly), you will receive one e-mail that includes a list of document titles and URL addresses that matches your profile on a daily, weekly or monthly basis.

Your "Personal Home Page" will include a list of the document titles and links to the documents that match your profile criteria. If you create a "Personal Home Page," it will be the first page you arrive at when you visit GartnerWeb.

Accessing GartnerWeb

The Research Library is acting as the administrative contact for GartnerWeb. A GartnerWeb link is on the Research Library's home page (http://lib-www.lanl.gov) under electronic databases. For first time registration, you will need the organization name and password. To obtain the organization name and password, click on the password link listed just under the GartnerWeb link. You will only need to enter the organization name and password once. During the registration process, you will determine and enter your personal user name and password. A QuickStart guide is available on GartnerWeb for more information.

Frances Knudson, fknudson@lanl.gov, (505) 667-3031
Research Library (CIC-14)

Web Cookies: Their Reason, Nature, and Security

Web Cookies (a.k.a., "Netscape Cookies") have been getting a bum rap lately. To hear some tell it, the idea behind cookies sounds like the first wave of black helicopters washing over us to control our lives as part of the international conspiracy to establish an evil world order. "Beware," they say, "Big Brother is here!"

And Wings are Optional on Airplanes

Cookies, in and of themselves, can't do anything. They are just pieces of information (4 KB maximum) passed between the Web server and client (browser). They don't contain any information about you that the server doesn't already know, and they can't do anything on your client that your client can't already do (provided the browser is within specifications). They might potentially be a nuisance—somewhat like a moth drawn to a lamp while you try to read a book—but they're hardly a threat and they do have uses.

This article will focus on the basic nature of cookies from the perspective of the client machine. How to actually use them as a Web author is dealt with elsewhere (see, for example, the "Date Last Modified" example in the May 1997 BITS article, "JavaScript Observations and Tips: Part II," or the many tutorials available on the Web). The main causes of concern about cookies have been related to the hesitation to accept them on the client side, however, and it is that concern that this article seeks to address.

A Problem: The Nature of HTTP 1.0

Cookies evolved as an answer to a fundamental weakness of the Web's underlying HyperText Transfer Protocol (HTTP)—the lack of "state," or a persistent connection. As illustrated in Figure 1, the way HTTP 1.0 operates is that the client sends a request (e.g., asks for a page), and the server responds (e.g., sends the page).

Each request is separate from previous requests, and each response is to that single request only. There is no inherent relation between any request and previous requests. There is no "state" (in which state is the status of an ongoing connection between two machines) or "session" (in which session is an ongoing connection with a distinct log in, session, and log out).

The main benefit of this approach is that it allows many different clients to request pages from a server without tying up that server in "idle time" between requests. Instead of the number of "log-ins" being restricted to the number of "ports" a server can serve, the number of clients being served is restricted only by the available bandwidth and the speed of the server in fetching and sending pages, images, and other contents.

A secondary benefit is that a page on one machine can link directly to a page on a completely different machine, without any need for the user to log in or otherwise establish a session. Since each request is independent of others, it doesn't matter where the request came from or how the client found its way there—all requests are equal.

The main drawback of the approach stems from the same lack of state that is its strength—without state, the server doesn't know which client it is responding to. It doesn't know whether that client has established permission to access restricted information (in the context of a password-protected session), or whether the client has selected items to purchase (in the context of a "shopping cart" for an on-line store), or whether the client has previously specified preferences (in the context of an on-line newspaper that allows users to specify which types of articles they are most interested in). Without state, the server can't tell one client from another.

This drawback is significant enough that various workarounds have been constructed. Basic authentication, for example, enables rudimentary password protection by utilizing the HTTP header for the client to send additional information to the server (i.e., the fact that it has previously

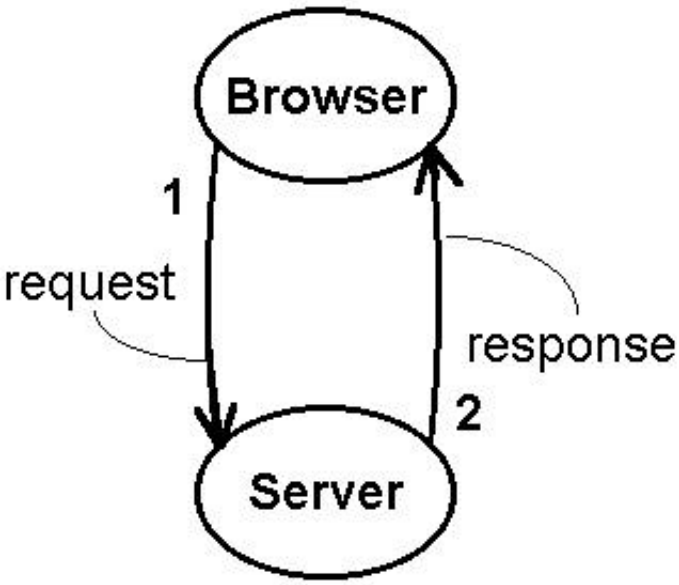


Figure 1: Basic HTTP 1.0 Request/Response

passed a password challenge). Various CGI (common gateway interface) scripts insert hidden information into a form created "on the fly" so that the form will return information specific to the particular client's request. Such workarounds have weaknesses, though. Basic authentication is relatively easy to spoof. CGI scripts can be confused if the user hits the browser's "back" button, etc.

A Solution: The Nature of Cookies

Cookies were developed to establish state by allowing the client and server to share extended information about each other. The first time the client visits a site that serves cookies, the server sends it the cookie, along with information about which URLs the cookie is valid for. As simplified in Figure 2, the next time the client visits one of those URLs, it knows to include the current value of the cookie in its request (step 2), which enables the server to possibly update the value of the cookie (step 3) along with possibly customizing its response to the client (step 4).

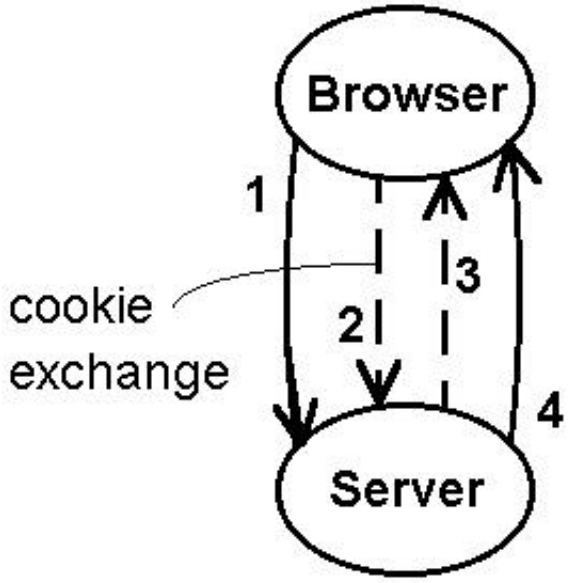


Figure 2: HTTP 1.0 Session with Cookie

This is, of course, a simplification. In the case of JavaScript, for example, all the activity occurs on the client machine, with the script acting as a proxy of sorts for the server. Basically, though, the cookie remains nothing more than information that allows the client and server to establish a session.

There are several flavors of cookies floating around. The first were introduced by Netscape with Navigator 2.0 and are currently the most widely used. A slightly different version is described in the IETF Standards Track RFC 2109: HTTP State Management Mechanism. In each case, however, the basic process is the same—the server (or client-side script) will set the cookie, send it to the client, and then look for it the next time the client issues a request.

Cookie Security

In spite of some seemingly dire warnings made about cookies, it is important to remember that they are nothing but information. They aren't programs that can cause the client machine to shut down, erase its disk, corrupt its files, or anything of the sort. The only thing they can cause the client browser to do is to save that piece of information for later retrieval.

Furthermore, because the cookie is set by the server (or client-side script), it can't contain any information that the server (or client-side script) doesn't already know (or have access to). Accepting a cookie does not create or reveal any new information. It simply stores already available information in a convenient place.

Note: All assertions regarding security, as always, are based on information available to date. There is always the possibility that a future browser bug may cause some problems (see the example in the following paragraph). In the case of cookies, though, it seems very unlikely that any such problems would be particularly significant.

An early concern about cookies was that Netscape Navigator 2.0 allowed JavaScript scripts to store a user's e-mail address in a cookie, which could then be sent to a server. Since an e-mail address is not something the server would normally know, this represented a loophole that enabled the server to learn something new about you, with the potential of adding you to e-mail distribution lists you never asked to belong to. This particular loophole lay in JavaScript, however, not the cookie, and the loophole was closed with Navigator 2.01.

Aside from occasional quirks such as the above, the cookie can only contain the following:

• Standard information from the HTTP header, such as your network address (required so the server knows where to direct its response), browser type and version, and page previously visited;

• Information generated by the server (or client-side script), such as a unique session ID; and

• Any additional information you have supplied in response to questions or forms, such as items already ordered from an on-line shop.

All of this information is available or can be constructed with or without cookies (see the July 1996 BITS article, "Responsible Use of the Internet"). Passing cookies is simply more convenient than maintaining and analyzing large server logs.

One exception: Note that the above generalization only applies to users of single-user machines. For multi-user machines, where a number of people share the same IP address, cookies do enable the server to distinguish between the various browsers using that address, since each browser maintains its own table of cookies. This is the only situation I'm aware of in which cookies can do anything that can't be done without them (though a number of things that are easy to do on the client side with them are more difficult to do on the server side without them).

Most of the current concern about cookies seems due to advertising groups that have figured out that user activity profiles can be constructed via cookies. These groups run on-line advertisements for a number of different companies and place their ads on a variety of different servers. The ads are images that load in like regular images, except that instead of residing on the machine that serves the rest of the page, they are actually being called from the ad group's machine.

What the ad group then does is to include a cookie with the image and to read the cookies the browser has already accumulated from them. This gives the ad group a quick history of which ads the client has already seen and where the client has seen them from, which in turn enables the ad group to customize the ads that are presented to the client (e.g., don't send ad #4 if the client has already seen it three times in the past hour). Whenever you're at the AltaVista site and receive a cookie, for example, it's likely to be one of these advertising groups at work.

To many, this ability to partially track a user's browsing history is what seems Big Brotherish, an intrusion on privacy and an unwarranted manipulation of content. To others, it seems useful that somebody would seek to target ads to their interests, instead of continually showing them a bunch of ads they're not interested in. As mentioned above, however, all of it can be done anyway, with or without cookies. The only significant difference is that passing and analyzing cookies is faster and easier than deriving the same results from very large server-side log files.

Practical Tips

For a lot of security reasons, not just the potential mishandling of cookies, it is important to keep your browser version up to date. JavaScript, for example, is continually evolving and improving, and the leading browser manufacturers have a lot riding on quickly solving any problems that arise.

If you're concerned about private information about you being distributed, then don't worry about cookies—worry about what information you provide in response to forms or questions. If a form asks for your name, phone number, or

other personal information, think twice about who you're giving the information to before you provide the information. If a form "requires" a phone number but you don't want to give it, feel free to enter a bogus number (e.g., 123-456-7890). The Web is not based on the sharing of personal information, and if someone asks for it, it's your decision—not theirs—whether to choose to provide it.

If you'd like the chance to screen cookies before you accept them, then set your browser to alert you. Under Netscape 3.01, under Options/Network Preferences/Protocols, turn on the "Show an Alert Before Accepting a Cookie" check box. Not only can this let you see how many cookies are being sent, but it also lets you check out the source of the cookie so that you can determine whether it's worth accepting. The option can then be turned off whenever you're visiting trusted sites that use cookies frequently (e.g., for authentication).

If you'd like to see which cookies are currently stored on your computer, Netscape keeps them in a "cookies.txt" file, generally in its home directory. This file can be opened in a regular text editor. Although it carries a warning not to edit it directly, you can safely delete complete lines if you see any you don't want to carry. (Note: Exit Netscape before editing the file.)

If you don't want to screen cookies or review which cookies are already on your computer, that's basically okay, too. They're interesting and can be helpful, but they're not going to do anything harmful to you and they won't carry any information that can't be tracked anyway.

For More Information

For more information about Web cookies, Web security, and related issues, see the Information Architecture (IA) Project's General Internet/WWW Activity Area page at http://www.lanl.gov/projects/ia-lanl/area/web/ (Laboratory machine addresses only). For more information about the IA Project in general, see our project home page at http://www.lanl.gov/projects/ia/ (or look under "What's New" from the Laboratory home page). If you would like printed or e-mail copies of any of the IA materials, please feel free to contact me at the address below.

Tad Lane, tad@lanl.gov, (505) 667-0886
Information Architecture Standards Editor
Communications Arts and Services (CIC-1)

New Software-Purchasing Feature Brings Savings on Microsoft Upgrades

Action Deadline: Monday, June 30, 1997

Laboratory employees can save 30% to 50% on updates, upgrades, and new releases on Microsoft software now in use through a new Maintenance option within the Microsoft SELECT software-purchasing program. Purchases must be made by Monday, June 30, 1997.

For approximately the price of one upgrade, get all updates, upgrades, and new versions through 1998 for the following Microsoft products.

- Access
- Excel
- Microsoft Word
- Office (all versions)
- PowerPoint
- Project
- Windows 95
- Windows 3.x
- Windows NT
- Windows NT Server

What's Maintenance?

The Maintenance option is a feature of Microsoft SELECT, the Laboratory's new software-purchasing program. Through CJ Enterprises (CJE), the Laboratory signed a 2-year contract in January 1997 with Microsoft Corporation to participate in the Microsoft SELECT program.

The opportunity to buy software Maintenance offers several benefits.

- For the price of one upgrade, receive all updates, upgrades, and releases through 1998.
- Pay in advance for forthcoming upgrades and thereby predict expenditures through 1998.
- Move from any version to the most current.
- Receive automatic upgrade notifications.

Users have only until Monday, June 30, 1997, to buy Maintenance for Microsoft software already in use if purchased before/outside the Microsoft SELECT program, which began in January 1997.

What happens after June 30th?

After June 30, 1997, each upgrade and new release for software already in use will cost the full price shown in Tables 1 and 2. Prices come from Electronic Software Distribution (ESD), a Web site on which to purchase, register (a license), and immediately install software, and much more (http://esd.lanl.gov).

All Microsoft products on ESD are included in the SELECT program and included the Maintenance option. However, not all products are available yet on ESD. Watch "What's New" on the Laboratory's home page for announcements about products as they are added to ESD.

Should I risk paying for unpublished software?

Computer technology's rapid advances give a reasonable measure of confidence that more than one upgrade/new release will be published before December 31, 1998. Historically, Microsoft Corporation publishes two upgrades and a new release for any product within an 18-month period. Because 18 months remain in the Maintenance agreement with Microsoft, we can expect two upgrades for any product and probably a new release. Therefore, the risk is minimal.

How can I purchase Maintenance?

Purchase Maintenance from ESD. Any Laboratory employee is invited to look around in the ESD Web site. To make a purchase, use an ICN password or SmartCard and cost code.

CJE also carries SELECT software and Maintenance although prices will be slightly higher than those on ESD. Be sure to ask for the Microsoft SELECT Bundle.

Where can I purchase new software with maintenance?

New software with Maintenance is available through

- ESD at http://esd.lanl.gov (just click on the red Maintenance button),
- CJ Enterprises in the JIT on-line catalogue (672-9435), or
- BUS Customer Service (667-8673).

More details about Maintenance, SELECT, and ESD are available on ESD or from the Remote Electronic Desktop Integration (REDI) Team, redi@lanl.gov.

Microsoft SELECT Software-Purchasing Program
The REDI Project, redi@lanl.gov

Table 1. Savings with Maintenance.

Product	New Version	Only 1 Upgrade	Total cost without Maintenance	Cost of Maintenance*
Mac Office	$295.30	$234.78	$530.08	$197.61
Office Standard	$295.30	$168.30	$463.60	$197.61
Excel, PowerPoint, or Microsoft Word	$195.47	$ 99.84	$295.31	$86.54

* Prices are prorated depending on the time remaining in the SELECT contract, which expires December 31, 1998.

Table 2. Cost Comparisons with and without Maintenance.

Without Microsoft SELECT Maintenance			
Jim already owns Office for the Mac and will buy Office 97 (Mac).	$295	Jean uses an older version of Microsoft Office and will buy Office 97 (PC).	$295
Jim will buy at least one upgrade for Office 97 during 1997-98.	$235	Jean will buy two upgrades during 1997-98.	$337
Minimum total Jim will spend by 12/98 without Maintenance.	$530	Minimum total Jean will spend by 12/98 without Maintenance.	$632
With Microsoft SELECT Maintenance			
Jim buys Maintenance now for Office for the Mac and will get Office 97 and all upgrades through 12/98.	$197	Jean buys Maintenance for her current version and gets all new versions and upgrades through 12/98.	$197
Minimum projected savings	**$333**	**Minimum projected savings**	**$435**

Research Library Training

The LANL Research Library provides training for using its specialized databases. Training sessions begin and end at times indicated below. Classes are free but you must preregister by calling the Research Desk at 7-5809 or sending e-mail to library@lanl.gov. Special classes and orientations can also be arranged.

Date	Time	Subject Matter
6/3/97	1:00 - 1:30 p.m.	Finding Environmental Information on the WWW
6/3/97	1:00 - 1:45 p.m.	New Employee Orientation/Research Library Overview
6/4/97	11:00 - 11:30 p.m.	MELVYL (U of CA specialized databases)
6/5/97	1:00 - 1:30 p.m.	Federal Regulations on the Internet
6/10/97	1:00 - 1:30 p.m.	Grant and Funding Information
6/11/97	1:00 - 1:30 p.m.	Finding Addresses and Phone Numbers on the WWW
6/12/97	1:00 - 1:30 p.m.	Finding Business Information on the WWW
6/12/97	2:00 - 4:00 p.m.	InfoSurfing: Basic Web Searching Strategies
6/17/97	1:00 - 1:30 p.m	SciSearch at LANL—At your desktop!
6/19/97	1:00 - 1:30 p.m.	GeoRef—Geological Information on CD-ROM
6/24/97	12:00 - 12:30 p.m.	CASSI on CD
6/26/97	1:00 - 1:30 p.m.	SciSearch Alerting Service
6/26/97	2:00 - 4:00 p.m.	InfoSurfing: Basic Web Searching Strategies
7/1/97	1:00 - 1:30 p.m.	Search Engines, Advanced Web Searching
7/8/97	1:00 - 1:30 p.m.	BIOSIS Database via the WWW
7/10/97	1:00 - 1:30 p.m.	Finding Secret Information (Q-Clearance Required)
7/15/97	1:00 - 1:30 p.m.	Research Library Catalog via the WWW
7/17/97	1:00 - 1:30 p.m.	Electronic Journals at your Desktop

Labwide Systems Training

The Customer Service Group (CIC-6) offers training for users of Laboratory information systems. The CIC-6 courses offer training for a variety of personnel including property administrators, group secretaries, training coordinators, budget analysts, group leaders, or anyone needing to access training records, property records, costs, employee information, travel, chemical inventories, etc. Refer to the table below for specific information about courses currently offered.

You must have a valid ICN password before taking any of the courses shown in the table. To register for a course, call the CIC-6 Training, Development, and Coordination section at 667-9559 or access our Web page. From the LANL home page, look under "Services/Computing at LANL/Training" or enter the URL: http://www.lanl.gov:8010/computer-information/cic6/teampage.html.

Course Title	Date	Time	Cost	Course Number
Employee Development System - Basic Training (EDS I)	6/11/97 & 7/9/97	8:30–12:00	$350	Course #5289
	The course provides hands-on instruction to request course enrollment, use the on-line course catalog, retrieve training transcripts, and assign EDS authorities. The student will learn to create courses, add students to the courses, and generate several training reports.			
Employee Development System - Training Plans (EDS II)	6/18/97 & 7/23/97	1:30–5:00	$350	Course #7155
	Participants receive hands-on instruction to create and maintain training plans, assign assignment codes, and generate training plan reports. Attendees must have prior training in the Employee Development System.			
Eudora Electronic Mail	TBA	1:30–3:30	$175	Course #9762
	This class is a hands-on class that teaches the participant how to use Eudora software to create, send, receive, and edit electronic mail messages. In addition to these procedures, the participant will learn what related settings mean and how to configure the system to meet his or her individual needs.			
Data Warehouse Basics	6/20/97 & 7/15/97	8:30–10:30	$175	Course #11961
	Students will receive hands-on training to generate standard reports and make quick queries from information in the data warehouse, a real-time collection of data tables from Laboratory financial, time-reporting, and personnel systems.			
Data Warehouse/ Financial Reporting	6/20/97 & 7/15/97	8:30–12:00	$350	Course #11960
	Students will receive hands-on training to generate standard financial reports and make on-line queries from information in the "data warehouse," a collection of data from Laboratory budgeting, accounting, and time-keeping systems.			
HTML Basics	6/10/97 & 7/8/97	8:30–12:00	$350	Course #11605
	Students will gain a basic understanding of HTML (Hypertext Markup Language), the language for the World Wide Web. Topics covered will be commands and standards, creating and editing documents, and authoring programs.			
HTML Tables	6/17/97	8:30–12:00	$350	Course #11959
	Students gain basic understanding of how to create various tables in HTML and new tags in HTML 3.0. Netscape-specific tags are also identified for clarity. Prerequisite: HTML Basics or permission of the instructor.			

Course Title	Date	Time	Cost	Course Number
Utilizing Netscape	6/3/97	8:30–10:30	$175	Course #10961
	Students gain basic understanding of the Internet, the World Wide Web, and Netscape as a browser to surf the Net. Topics covered are both Laboratory sites and open sites, along with practical uses of the Internet.			
Lotus Notes 4.5 (formerly Lotus Notes Basics)	6/4/97	8:30–12:00	$350	Course #9917
	Participants receive hands-on computer instruction to learn to create and send Notes e-mail memos, fax documents, search on one or multiple databases, use views and folders, create nicknames and distribution lists, set defaults, create doclinks, send attachments, and replicate databases.			
Meeting Maker	6/10/97 & 7/1/97	1:30–4:00	$175	Course #12395
	Students learn how to create an address book, create personal groups, utilize the Auto-Pick feature, utilize e-mail integration with non-Meeting Maker users, and customize various Meeting Maker features.			
On-Line Forms	TBA	3:30–5:00	$175	Course #9756
	Participants will learn to use Netscape software to access Lab-wide information and forms. Using Jetform Filler software, participants will access, complete, and print forms such as the "ICN Validation Request," "Visitor Request for Unclassified Visits to Security Areas," and "Request for Quotation."			
Purchase Card System	TBA	1:30–2:30	$175	Course #11924
	Students will learn to reconcile monthly statement of account, submit reconciled statement of account for approval, print statement of account for audit records, and delegate reconciliation authority. Prerequisite: PCS Overview. Call Ruby O' Rear at 665-4523.			
Reporting with Infomaker	6/12–13/97	8:30–5:00	$650	Course #11054
	Hands-on training to query data and develop ad hoc, or non-standard, reports from the LANL data warehouse using Infomaker software.			
Time and Effort System (GUI)	6/3/97	1:30–3:30	$175	Course #11018
	The student will learn how to enter attendance, amend attendance, approve attendance, and submit exception and approval reports. Time codes and associated policies will be discussed. The student will also learn how to use the Information Manager utility to view and print reports.			
Travel	6/24/97	1:30–4:30	$350	Course #12091
	Hands-on training to submit and approve travel requests and expenses in the new Travel System which replaces the TRIPS on-line system and the post-travel expense worksheets.			
Web JIT Catalog	7/9/97	1:30 - 3:30	$175	Course #12735
	The student will learn how to utilize the new Web-based Just-In-Time (JIT) catalogs. These catalogs contain both JIT vendor catalogs and the catalog for the Lab's special-purpose inventory. Students will learn to look up items by description and part number, and will learn to Telnet over to IA to STORES from the Web.			

Advanced Technical Computer Training

The Customer Service Group (CIC-6) supports advanced technical training in computing areas such as programming languages, system administration, networking, and World Wide Web development tools. The support provided by CIC-6 can be as limited as providing the appropriate facilities for a specific group or as extensive as coordinating training functions such as system administration, vendor acquisition, EDS administration, and class facilitation. The table below lists classes that are either currently being offered or are available on request. An expanded list of classes that are potentially available can be viewed on the Internet at http://www.lanl.gov:8010/computer-information/ComputerTraining/Vendor.html.

To request registration in any course or for general assistance, please contact the CIC-Division Advanced Technical Computer Training Coordinator at (505) 667-9399 or send e-mail to cic6-train@lanl.gov.

*Cost per student will vary depending on the total number of students enrolled in the class.

Course Title	Date	Time	Cost	Course Number
C++ and the Unified Modeling Language (UML)	Available on Request (2 days)		$800-$1000*	12894
	Prerequisite(s): This course is designed to analysts, software engineers, application experts, and technical project managers using Rational Rose with the Unified Modeling Language (UML). Topics Include: Introduction to Rational Rose; Course Registration Case Study; Use Cases; Packages and Classes; Relationships; Operations and Attributes; Inheritance; Object Behavior; Architecture; Design Details; C++ Code Generation; The C+ Analyzer; Team Development; and RoseScript. Participants will create, update, and save UML models containing use-case diagrams, class diagrams, interaction diagrams, state-transition diagrams, component diagrams, and deployment diagrams.			
C++ for Experienced Programmers	6/23–27/97		$1600 – $1900*	9050
	Prerequisite(s): Excellent C Language programming skills. Topics Include: Major Differences and Additions to ANSI C; Building C++ Classes; Introduction to Text I/O with C++; Function Overloading; Single Inheritance; Virtual Functions; Multiple Inheritance; Operator Overloading; Creating, Initializing and Assigning Objects; Passing and Returning Objects; Templates, Parameterized Functions and Classes; C++Stream I/O with the File System; and C++ Course Summary.			
Java Programming (Basic)	8/11–13/97		$800 – $1,000*	11686
	Prerequisite(s): Students must have the ability to create compiled programs using an advanced language (such as C or C++) and the knowledge to use basic Solaris commands and a World Wide Web browser (such as Mosaic or Netscape). Topics Include: Overview of the Java Programming Language, the HotJava WWW Browser, Applets, Audio and Animation, Importing Java Classes, Attaching Applets to HTML, Object-Oriented Programming Methodology, and Identification of Main Features of Java (including classes, servers, and security).			
Java Applications Programming	8/14–15/97		$600–$800*	11687
	Prerequisite(s): Completion of Beginning Java Programming course or equivalent knowledge. Topics Include: Developing Java Applications; Point-of-Sale Interfaces; Writing Java Code (demonstrating Java security, interactivity, graphics, audio, and animation); Java Class Packages and Subclasses; Memory Allocation and Garbage Collection Work; Interfaces, Exceptions, and Access Modifiers; Multithreading; and Extending Java.			

Course Title	Date	Time	Cost	Course Number
Java Programming Workshop	Available on Request (5 days)		$1800–$2100	12872
	Prerequisite(s): Completion of Basic Java Programming and Java Applications Programming courses or equivalent knowledge. Topics Include: Designing and Developing Java GUI and Live Java Applications; Using a Subset of ANSI SQL to Communicate with a Relational Database; Programming a Java Network Connection and Interface; Understanding the Basic Structure of the JDBC-API; Constructing a Query-By-Example Interface, Including Data Parsing and Formatting; Listing Porting Issues Between Solaris 2.X and Windows NT; and Explaining the Steps for Including Native Methods in Java Code.			
SGI ProDev C++	7/22–23/97		$800-$1000*	12895
	Prerequisite(s): C Programming experience Topics Include: Quick Overview of C++ Programming; SGI C++ Compiler Environment (Compiler Use and Flow, Template Instantiation Details, and Delta/C++ Tmand Smart BuildTM Specifics); Customizing the ProDev Environment (Changing Color Schemes, Using the Source View, File Browser, and SGI Help and Graphical View); Using the Build Manager Tools to Compile Programs; Using the Static Analyzer to Create Filesets and Databases and to Make Queries; Querying Class Information with the C++ Class Browser; Setting Traps (Breakpoints) and Looking at Data Using the Debugger; Setting Fast Watchpoints; Using the Fix+Continue Feature to Debug and Prototype Changes; Profiling Your Code and Determining Resource Usage Using the Performance Analyzer; Doing Heap and Memory Fragmentation Analysis Using Heap View; Determining the Coverage of Your Software Tests with Tester; and Tuning Your C++ Code for SGI.			
SGI System Administration (Beginning)	Available on Request (5 days)		$1800–$2300*	11688
	Prerequisite(s): Familiarity with using Silicon Graphics IRIS workstations and system administration procedures on other open system platforms. Topics Include: The Role of the System Administrator; Set Up and Configuration of an IRIS Workstation or Server; Supporting a Group of Silicon Graphics Users; System Security Maintenance; Backups and Recoveries; Configuration of Disk Drives; System Installation and Application Software; Attaching Terminals and Printers; Modifying the system Start Up and Shut Down Sequences; Automating Administrative Procedures; and Performing Basic System Troubleshooting.			
SGI Network Administration	7/7–11/97		$1800–$2300*	11690
	Prerequisite(s): Completion of Silicon Graphics System Administration (Beginning) course or equivalent knowledge and experience. Topics Include: Networking Fundamentals; Network Configuration; Network Troubleshooting; Resource Management with Network; Information Services; Domain Management with Domain Name System; Electronic Mail with Sendmail; Remote File Sharing with Network File System & Automounter; Network Performance Monitoring; and Network Security.			
SGI System Administration (Advanced)	7/28/97–8/1/97		$1800–$2300*	11689
	Prerequisite(s): Completion of Silicon Graphics System Administration (Beginning) course or equivalent knowledge and experience. Topics Include: System Error Monitoring; Kernel Reconfiguration and Debugging; System Monitoring Tools; Process Management; MultiProcessor CPU Management; Memory Management and Tuning; Swap Management and Tuning; Disk Management and Tuning; XPS Filesystem Management; and System Security Concepts.			

Course Title	Date	Time	Cost	Course Number
Solaris 2.X System Administration (Beginning)	7/21–25/97		$1600–$2000*	7477
	Prerequisite(s): Knowledge of Unix commands and an editor. Topics include: Custom installation of Solaris2.X server; Add peripheral devices; Use format utility to display partition information; Compress and send binary files; Change system run levels; Add startup files for additional services; Add and remove software packages; Configure terminals and modems; Administer disks and file systems; Discuss basic networking concepts; Configure NFS to support the client-server environment; Use the automounter; Add and remove diskless clients; Back up and restore file systems; Perform basic recovery and troubleshooting procedures; Configure and administer the NIS+ environment.			
Solaris 2.X Network Administration	9/8–12/97		$1600–$2000*	8107
	Prerequisite(s): Completion of Solaris 2.X System Administration (Beginning) class or equivalent knowledge and experience. Topics Include: Network Configuration; Remote Installation Procedures; Advanced Security Techniques; Troubleshooting Techniques; Customizing Sendmail; Network Application Tools; and Name Service Configuration.			
Sybase SQL Server Administration	Available on Request (5 days)		$1800–$2100*	12913
	Prerequisite(s): Prior experience with SQL and familiarity with SQL servers and databases. Topics Include: SQL Server Environments and Installation; Resource Allocation and Management; Creating Databases; Modifying Default SQL Server Configuration; Backing Up Databases and Transaction Logs; User Permissions; Monitoring and Troubleshooting; Connectivity Issues; and Auditing.			
Sybase Performance Design and Tuning	Available on Request (5 days)		$1800–$2100*	12914
	Prerequisite(s): Sybase SQL Server Administration or equivalent knowledge and experience. Topics Include: Tuning Transact SQL Queries; Optimizing Locking at the Application Level; Tuning Transaction Processing; Working with Cursors; Benchmarking Techniques; and Optimizing Hardware Device Usage.			
UNIX (Basic)	Available on Request (4 days)	8:15–12:00	$400	5267
	Prerequisites: Basic computer literacy (knowledge of the keyboard and mouse) are helpful. Topics: Getting Started; UNIX File System; Editing with VI; Manipulating Files; Using C-Shell Features; Customizing Your Environment; Navigating the Network; Job Control; Generic UNIX E-mail; and Electronic Mail Registration (EMR).			
UNIX (Advanced)	Available on Request (4 days)	8:15–12:00	$400	12972
	Prerequisites: The Basic Unix class or equivalent knowledge. Topics: File Manipulation; File Reorganization; Network File System Concepts; Introduction to C-Shell Scripts; Conditional Execution; Shell Programming; The Korn Shell; Korn Shell Script Features; and SED Filtering Tool.			
Windows NT Optimization and Troubleshooting	Available on Request (4 days)		$1800-$2100*	12893
	Prerequisite(s): Windows NT 4.0 Workstation and Server class (EDS # 12729 or equivalent knowledge and experience. Topics Include: Overview and Benefits of Windows NT Architecture; Collecting Data; Identifying the Baseline Using the Performance Monitor; Creating and Interpreting a Performance Database; Tools and Techniques; Improving Operating System Efficiency; Boosting Network Performance; Implementing Redundant Systems; Clustering Technologies; Identifying Operating System Components; Maintaining Services and Device Drivers; Tuning the Registry; Demystifying the "Blue Screen"; Identifying Major Resources; Forecasting Utilization Trends; and Predicting Future Requirements.			

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National Laboratory

INTEGRATED COMPUTING NETWORK (ICN) VALIDATION REQUEST

Instructions:

(1) Complete all parts of this form that apply to you. Please take note of the "Special Requirements" section and complete any applicable parts.
(2) Manager (Group Leader or above) authorization and signature are required for all validation requests.
(3) Before submitting this request, ensure that your Employee Information System (EIS) information is current.
(4) Once completed, either mail this request to the Password Office at MS-B251, fax it to (505) 667-9617, or, if you are cleared, handcarry it to TA-3, SM-200, Room 257.

If you have **questions** call (505) 665-1805 or send e-mail to validate@lanl.gov

Owner Information

Z-Number (if you have one)			Name (last, first, middle initial)
LANL Group	Phone Number	LANL Mail Stop	Citizenship (Foreign National see "Special Requirements-Foreign National")

Check LANL affiliation:

- ☐ LANL employee
- ☐ Contractor _____ (specify contract company)
- ☐ External user_____ (specify employer)
- ☐ Other (specify)_____

Send password / smartcard to:

☐ Mail Stop or ☐ Mail to address indicated below

Name / Organization
Address
City, State, Zip Code

Access

Check access method and needed partitions:

Access method: ☐ ICN Password ☐ Smartcard ☐ Both

☐ **Open** partition (e.g., open machines, or for dial up access)

☐ **Administrative** partition (e.g., Travel, Data Warehouse, IA [BUCS, Stores], IB [EIS, FMIS, PAIRS])
If you are not a cleared LANL employee, see required steps in section "Special Requirements-Administrative Partition".

☐ **Secure** partition (i.e., secure machines)
A Q-clearance is required for secure access. After obtaining Manager signature for Secure access, handcarry this form to the Password Office to obtain your Secure account.

I certify this person does require **secure** access:

_____ _____
Manager Signature (Group Leader or above) Date

Password Office Use Only

New ☐ Change ☐	Clearance Status	Processed	Lv	Smartcard Serial #
Comments:				

Form 1646 (3/95) Supersedes previous versions (rev. 4/97).

Continue

Special Requirements

Administrative Partition
Lab-Wide Systems (e.g., Travel, Data Warehouse, IA [BUCS, Stores], IB [EIS, FMIS, PAIRS])

☐ Under 18 years of age

If you need to access Administrative systems, your Group Leader must provide a memo accepting responsibility for your actions and justifying your need for access. This memo is to accompany all forms taken to the security briefing (see "Contractor or Non-Cleared") section below. You may not access the Secure Partition.

☐ Contractor or Non-Cleared

Phone (505) 665-4444 (option #2) to obtain Access Authorization packet.

Phone (505) 667-9153 to schedule a security briefing.

Bring all forms including this ICN Validation Request to the security briefing for approval.

CIC-6 Security Briefing Approval Signature	Date

☐ Foreign National

Attach a copy of Form 982 (REQUEST FOR UNCLASSIFIED VISIT OR ASSIGNMENT BY A FOREIGN NATIONAL) with all approval signatures. Be sure Box #11 of Form 982 is completed. If you are not a visitor/assignee under a LANL/DOE approved Visit / Assignment Request, attach written justification from your host Group Leader or Division Director describing your need to access the ICN.

Authorization (required)

Print Manager Name (Group Leader or above)	Manager Z-Number	Group
Manager Signature (Group Leader or above)	**Mail Stop**	**Date**

If you are NOT a LANL employee you must have a LANL contact and obtain the contact's signature in addition to the contact's manager's signature.

LANL contact: Read the following and sign below.

By signing this form I affirm that I understand and accept the following:

a. I am a regular Laboratory employee.

b. I am responsible for forwarding password reauthorizations and verifying annual account reauthorizations for this user.

c. I am responsible for notifying the Password Office within 10 days of changes in my status.

d. I am responsible for notifying the Password Office immediately of changes in this user's status (termination, end of contract, etc.).

Print LANL Contact Name	Contact Z-Number	Phone Number	Group
LANL Contact Signature		**Mail Stop**	**Date**

NOTE: All Laboratory computers, computing systems, and their associated communication systems are for official business only. By completing this validation request and signing for a password and/or smartcard, you agree not to misuse the ICN. The Laboratory has the responsibility and authority to perodically audit user files.

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